MARKETING PRACTICES OF GROWERS OF FLOWERS AND PLANTS

- PHILADELPHIA
- BALTIMORE
- WASHINGTON, D.C.

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ABSTRACT

Growers of flowers within 50 miles of three terminal wholesale flower markets--Philadelphia, Baltimore, and Washington, D.C.--expanded production from 1966 to 1971, but not as fast as the national market expanded. Information about market organization and practices during 1966-71 and about expectations for 1975 was gathered from interviews with 105 growers in the three areas in 1972. Market competition has led to increased production of bedding plants and other ornamentals relative to major cut flower production. Economic pressures have not made and are not expected to make any radical change in the growers' marketing practices before 1975. Nevertheless, the trend toward fewer and larger firms, corporate organization, less consignment in marketing, and more direct sales to retailers will continue, according to the majority of growers.

Key Words: Ornamental production and marketing, cut flowers, potted plants, bedding plants, foliage.

PREFACE

This work was undertaken after a terminal wholesale market study of Philadelphia, Baltimore, and Washington, D.C., indicated that less and less of local needs for cut flowers and plants were being met by nearby production. Growers located near these terminal markets were interviewed to determine the problems and opportunities created by this change in market competition.

Parallel work on this problem was done by Cornell University for the New York City and Boston markets and by Purdue University for Cleveland, Detroit, Chicago, and St. Louis.

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CONTENTS

	Page
Highlights	v
Introduction	1
Purpose	2
Procedure	2
A Profile of Growers	5
Value of Production	8
Flowers	8
Potted Plants	8
By Area	10
By Size of Firms	10
By Number of Employees	10
Total Sales	10
Age of Firms	14
Production Facilities	14
Product Mix	16
Prices	16
Market Concentration	20
Sales to Wholesalers	20
Sales to Retailers	20
Channels of Distribution	23
Within 50 Miles of Production	23
More Than 50 Miles from Production	23
Recent Trends	28
Production	28
Distribution	31
Incentives to Produce Florist Crops	33
Positive Factors	33
Negative Factors	33
Suburban Pressures	34
Integration and Conglomeration	34
Price and Pricing Policies	35
Nonprice Practices and Services	37
Crop Preparation	37
Credit Policies	38
Advertising and Promotion	38
Services	40
Summary	40
Selected References	42

HIGHLIGHTS

Growers of flowers and plants near the Philadelphia, Baltimore, and Washington, D.C., terminal markets foresee little change in their marketing practices through 1976. The typical grower largely markets through fewer than five wholesalers. Few growers are affiliated with other firms or own more than one production facility. There is little conglomeration or likelihood of vertical and horizontal integration by many firms in the area studied. Growers believed that factors negative to area firms entering the production of ornamentals were stronger than incentives to enter. Low returns, long hours of work, and rising costs of inputs in production discourage entry.

Pricing remains a function of demand relative to the available supply, especially in certain seasons or around special holidays. Little change in pricing patterns is foreseen even though quality differences are being given more weight in pricing decisions.

Information about market organization and practices during 1966-71 and expectations for 1975 was gathered from interviews in 1972 with 105 growers of flowers and plants near Philadelphia, Baltimore, and Washington, D.C. The growers increased the value of their sales between 1966 and 1971, but their rate of expansion was poor relative to the national increase of 51 percent in value of production of florist crops during this 6-year period. In the study area, growers increased the value of their output from $13.6 to $15.9 million, or 17 percent. The typical firm sold $152,000 worth of flowers and plants in 1971.

Most of the firms in the area were single establishments whose major income came from production and sales of flowers from the one location. Sales of the individual firms varied by type of ownership. Four of 10 growers were single proprietorships, four were corporations and two were partnerships. The average sales of the corporate growers were three times those of the sole proprietorships.

About 90 percent of production was accomplished using glass-covered greenhouses, although greenhouses covered with other materials accounted for most of the increase in value between 1966 and 1971. Price increases from 1966 to 1971 contributed more to increases in the value of ornamentals than the increases in the volume produced.

Cut flowers were the major type of ornamentals produced by the majority of growers interviewed. Nevertheless, other crops, particularly bedding plants, made up more of the product mix in 1971 than in 1966. Roses made up almost half the value of all cut flowers produced. Four major flowers--chrysanthemums, carnations, gladioli, and roses--were 87 percent of all cut flowers produced by the growers interviewed. Potted chrysanthemums accounted for 26 percent of the potted plants produced and poinsettias 18 percent.

Total sales of flowers and plants were $17.3 million in 1971. Sixty-eight percent of all sales were made within 50 miles of production, including over 80 percent of the potted, bedding, and foliage plant sales. About 59

percent of total cut flower sales and 29 percent of the sales of other products, such as bulbs, cut foliage, and dried flowers, were sold within 50 miles of production. Generally, flower sales by growers went to wholesalers, and potted plants, foliage, and bedding plants were sold directly to retailers.

Cut flowers were 78 percent of the $5.6 million in sales made more than 50 miles from point of production. Bulbs and dried flowers also moved in important quantities. Generally, less than 15 percent of the growers' total sales were made outside the terminal market areas of Philadelphia, Baltimore, Washington, D.C., and New York.

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BY

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INTRODUCTION

Dynamic shifts are taking place in both the production and marketing of flowers and plants. Changes involve the types of flowers and plants produced, the location of production, and types of market outlets utilized. This study focuses on the impact of these changes on growers located within 50 miles of three terminal wholesale markets, Philadelphia, Baltimore, and Washington, D.C.

These three markets once sold most of the production originating in the area studied. They continue to expand in size, but they have placed more reliance on flowers and plants from more distant sources such as California, Florida, and Colorado. This study was undertaken to determine what impact the trend away from depending on local sources by the terminal market wholesalers has had on local growers in the area studied.

A variety of production methods are used in the area studied. Different methods of production are required because of a demand for flowers and plants that fluctuates seasonally and a climate that requires indoor production for most of the year. Seasonal demands are high in December and for the late winter and the spring holidays. The seasonal peaks in demand require a capacity of production far beyond average weekly needs. The seasonal demand also requires that most production be underway when the outdoor climate is most unfavorable for the efficient production of flowers and plants. For example, individual purchasers of florist crops usually purchase over twice as much in April and May as in the summer and fall. 1/

The spring market demand in Philadelphia, Baltimore, and Washington makes it necessary for nearby producers in Pennsylvania, Maryland, New Jersey, Delaware, and northern Virginia to expand greenhouse production during the high cost period in the fall and winter. Providing flowers for the major market months requires initiating production when daylight is minimal for good plant growth. The requirements for supplemental heat are a maximum at the same time. However, sales are slack in the market area during the summer when the climate permits lower cost outdoor production in the study area.

The rate of increase in the production of flowers and plants in California, Colorado, and Florida has been substantial in the last two decades. The increase in production in Pennsylvania, New Jersey, Maryland, Delaware, and northern Virginia has not kept pace with either the national rate of growth or the rate of expansion in the three major producing States, California, Colorado, and Florida.

1/ Hall, R. and Raleigh, S. Commercial Floriculture and Related Products U.S. Dept. Agr., Mktg. Res. Rpt. 855, table 5, page 6.

Production of ornamentals--flowering and foliage plants, bedding plants, cut flowers, and cultivated florist greens--from 1959 to the present provides an indication of the overall trend in the ornamentals industry. Total value of production of these flowers and plants increased from $292 million to almost $485 million from 1959 to 1970 (table 1). The increase of $193 million in 11 years will easily be eclipsed in the 1970's if recent trends continue. The rise in value of production accelerated until 1972-73. For example, the estimated increase from 1967 to 1970 was $80 million and the 1970 to 1973 increase is estimated to be $128 million. However, this rapid national increase has been taking place primarily in the three major States, with all other States expanding production less rapidly.

The value of production of specified flowers and plants rose 123 percent from 1959 to 1970, to $196 million in California, Florida, and Colorado (table 2). A more moderate increase of 38 percent was registered by growers in the three-State area under study, Pennsylvania, New Jersey, and Maryland. 2/ The increase in all other States from 1959 to 1970 was about 42 percent.

The trends that developed from 1959 to 1970 appear to be continuing. Production in California, Florida, and Colorado is increasing not only faster than in the research area for this report, but faster than in all other States.

The value of production in the study area declined from 13 to 11 percent of the national total between 1959 and 1970. It is estimated that the combined value of production in Pennsylvania, New Jersey, and Maryland was only 10 percent of the U.S. total in 1973.

Purpose

The objectives in this research were to describe and evaluate:

1. Market organization, including the types and number, of growers located within 50 miles of each market.

2. Market volumes and trends, by type of product and firm merchandising flowers and plants produced near each market.

3. Expected trends in pricing, market development, products grown, and services to customers, and the organization and practices of distributing and retailing firms, except terminal market wholesalers, located in each area.

Procedure

Interviews were conducted with growers who produced at least $25,000 worth of the selected flowers and plants and were located within 50 miles of each

2/ Virginia and Delaware are not used in this comparison as the value of production supplied to the markets studied from these States was not large relative to the values shown.

Table 1.--Sales of ornamentals by flower and plant producers, United States, 1959-73

Years	Sales		Index	
	Value	Estimated change in value	1959 = 100	1970 = 100
	1,000 dollars	Percent		
1959	1/ 292,303	100	100	60
1960	302,500 e	103.5	104 e	62 e
1961	317,300 e	104.9	109 e	65 e
1962	328,400 e	103.5	112 e	68 e
1963	339,900 e	103.5	116 e	70 e
1964	353,800 e	104.1	121 e	73 e
1965	368,700 e	104.2	126 e	76 e
1966	385,700 e	104.6	132 e	80 e
1967	405,000 e	105.0	139 e	84 e
1968	427,300 e	105.5	146 e	88 e
1969	452,900 e	106.0	155 e	93 e
1970	2/ 484,670	107.0	166	100
1971	524,300 e	108.0	179 e	108 e
1972	567,300 e	109.4	194 e	117 e
1973	612,700 e	108	210 e	126 e

1/ Census 1959.
2/ Census 1970.

e = estimates interpolated for 1960-69, 1971-73 estimates based upon 1970 Census and expanded on the basis of increases reported by Statistical Reporting Service (Sp Cr 6-1, Flowers and Foliage Plants).

Table 2.--Production of flowers and plants in 6 States, 1959-73

Year	Calif.	Fla.	Colo.	Sub-total	Pa.	N.J.	Md.	Sub-total	All other States	U.S. total
	Million dollars									
1959 1/	46.0	33.1	8.4	87.5	22.1	13.1	3.7	33.9	165.9	292.3
1960 e	48.7	34.9	8.9	92.5	22.4	13.3	3.8	39.5	170.5	302.5 e
1961 e	53.1	37.6	9.5	100.2	22.8	13.4	3.8	40.0	177.1	317.3 e
1962 e	56.0	39.0	10.2	105.2	23.0	13.5	3.8	40.3	182.9	328.4 e
1963 e	58.7	40.5	10.9	110.1	23.3	13.7	3.9	40.9	188.9	339.9 e
1964 e	62.2	42.1	11.7	116.0	23.8	13.9	4.1	41.8	196.0	353.8 e
1965 e	64.1	45.3	13.1	122.5	24.6	14.2	4.3	43.1	203.1	368.7 e
1966 e	66.9	48.8	15.0	130.7	25.0	14.8	4.6	44.4	210.6	385.7 e
1967 e	70.9	52.7	17.0	140.6	26.1	15.1	4.9	46.1	218.3	405.0 e
1968 e	77.8	57.6	19.1	154.5	27.6	15.5	5.3	48.4	224.4	427.3 e
1969 e	91.3	61.3	21.3	173.9	29.2	15.9	5.7	50.8	228.2	452.9 e
1970 2/	107.5	65.1	23.8	196.4	31.0	16.3	6.2	53.5	234.8	484.7
1971 e	119.1	69.2	26.7	215.0	32.9	16.8	6.6	56.3	253.0	524.3 e
1972 e	135.2	73.5	29.8	238.5	34.7	17.3	7.3	59.3	269.5	567.3 e
1973 e	166.9	78.2	33.7	278.8	36.9	17.8	7.8	62.5	271.4	612.7 e

1/ 1959 Census.
2/ 1970 Census.

e = estimates interpolated for 1960-69, 1971-73 estimates based upon 1970 Census and expanded on the basis of increases reported by Statistical Reporting Service (Sp Cr 6-1, Flowers and Foliage Plants).

terminal wholesale market. Growers selected for interviews in this study were in the following areas:

Terminal wholesale market	Nearby growing area
Philadelphia	Eastern Pennsylvania, northern Delaware, southern New Jersey.
Baltimore	Southeastern Pennsylvania, eastern Maryland.
Washington, D.C.	District of Columbia, southeastern Maryland, northern Virginia.

Three classifications of growers wholesaling and/or retailing ornamentals were used in this analysis. The three classes were:

(1) Grower-wholesalers; growers selling to wholesalers only.

(2) Grower-retailers; growers selling direct to consumers or to retailers only.

(3) Combination firms; growers selling to both wholesalers and retailers.

A PROFILE OF GROWERS

Managers of 105 firms that met the definition of growers of flowers and plants were interviewed. About half of the firms interviewed sold their entire production exclusively through one or more wholesalers (table 3). Another one-third of the firms sold to both wholesalers and retailers. The remaining firms sold through their own retail outlets and to other retailers.

Growers were asked about the current type of ownership and how this had changed since 1966. As late as 1966 almost half of the firms were individual proprietorships and about one-third were corporations (table 4). Corporations and proprietorships were equal in number in 1971. The trend toward fewer proprietorships and more corporations is similar to trends in many other industries in the United States. Sales of corporations averaged more than three times the average for proprietorships and more than twice that of partnerships.

Most of the individual proprietors and former proprietors commented that the corporate form of organization is becoming dominant in the industry. The consensus was that the corporate form of organization today provides more insurance of a continued operation of the firm. The reasons stated included the following:

(a) Additional capital and credit are needed annually to cover rising operating costs.

(b) Financial institutions make it easier to negotiate loans if the business is a corporation with a more formal business structure.

Table 3.--Sales of flowers and plants, by type of business, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Market and type of business	Firms	Sales	Percent of total
	No.	1,000 dol.	Percent
Philadelphia:			
Grower-wholesale	36	5,781.3	48.3
Grower-retail	16	2,182.4	18.2
Combination & other 1/	22	4,003.3	33.5
Total	74	11,967.0	100.0
Baltimore-Washington, D.C.:			
Grower-wholesale	6	664.8	12.4
Grower-retail	10	1,087.9	20.2
Combination & other	15	3,620.7	67.4
Total	31	5,373.4	100.0
Both markets:			
Grower-wholesale	42	6,446.1	37.2
Grower-retail	26	3,270.3	18.8
Combination & other 1/	37	7,624.0	44.0
Total	105	17,340.4	100.0

1/ Other included jobber-wholesalers in each area.

Table 4.--Value of production of flowers and plants, by area, firm size, and type of ownership, 105 firms, Philadelphia, Baltimore, and D.C. areas, 1966 and 1971

Item	1966			1971		
	Firms	Value of production	Average per firm	Firms	Value of production	Average per firm
	No.	----1,000 dollars----		No.	----1,000 dollars----	
Market area:						
Philadelphia	71	10,294.0	145.0	74	11,540.6	155.9
Baltimore and D.C. area	31	3,301.8	106.5	31	4,370.4	141.0
Total	102	13,595.8	133.3	105	15,911.0	151.5
Firm size (dollars):						
25,000 to 50,000	30	1,072.6	35.8	23	895.8	38.9
50,000 to 99,999	35	2,479.9	70.9	35	2,484.7	71.0
100,000 to 149,999	11	1,386.5	126.0	15	1,712.6	114.2
150,000 to 199,999	10	1,653.3	165.3	9	1,497.9	166.4
200,000 to 299,999	6	1,548.0	258.0	7	1,666.4	238.1
300,000 and over	10	5,455.5	545.6	16	7,603.6	475.2
Total	102	13,595.8	133.3	105	15,911.0	151.5
Type of ownership:						
Proprietorship	48	3,375.2	70.3	43	3,335.2	77.6
Partnership	20	1,975.8	98.8	19	2,093.4	110.2
Corporation	34	8,244.8	242.5	43	10,482.4	243.8
Total	102	13,595.8	133.3	105	15,911.0	151.5

(c) Management control is no longer being assumed by the children of the proprietor as the primary means of continuing the business.

(d) All forms of taxation, particularly taxes on estates, income, and profits, provide the corporate operator more alternatives in continuity of operation upon a change in management and ownership of the business.

The average firm producing flowers and plants specializes in this type of business. Eighty-eight percent, almost 9 out of 10 growers, operated a single business in a single location. The percentage of this type of business in the industry is higher than shown because firms that did not produce at least $25,000 worth of flowers and plants each year were not included in the study. Most firms producing under $25,000 in flowers and plants per year were proprietorships, according to the growers interviewed.

VALUE OF PRODUCTION

Flowers

Roses were almost half of the value of all cut flowers produced in 1971 by the firms studied (table 5). Of the 23 firms that produced roses, 14 produced roses exclusively. Carnations were second in value and standard chrysanthemums were slightly lower. Seven firms produced carnations and six produced standard chrysanthemums. Gladioli were 5 percent of total value and pompon chrysanthemums 8 percent. Therefore, the four major flowers reported in the 23-State totals annually represent 87 percent of the value of cut flowers produced by the firms studied.

Only two other types of flowers were 3 percent or more of the total: snapdragons were 4 percent and orchids 3 percent of the total value of ornamentals produced by the firms interviewed.

Potted Plants

Potted chrysanthemums in 1971 represented 26 percent of the value of all potted plants produced by the growers studied (table 5). Poinsettias were second in value at 18 percent, followed by geraniums and azaleas at 14 and 13 percent, respectively.

Lilies, a popular potted plant for Easter, were 8 percent of the total value of potted plants. Hydrangeas were 4 percent and tulips 3 percent of the potted plants.

Many other types of plants, including African violets, hyacinth, and cyclamen, made up the remaining 14 percent of the total value of potted plants. Because of the more seasonal or holiday sales of potted plants, firms did not specialize in one type of plant as some firms did with cut flowers, especially roses.

Table 5.--Value of production and number of firms producing selected cut flowers and potted plants, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Type	Firms	Value	Distribution of firms	Distribution of sales 1/
	Number	1,000 dollars	Percent	Percent
Cut flowers:				
Roses	23	4,874.1	22	49
Carnations	31	1,321.8	30	13
Standard mums	49	1,129.8	47	12
Pompons	38	830.2	36	8
Gladioli	19	512.4	18	5
Snapdragons	30	430.2	29	4
Orchids	3	286.7	3	3
Other	30	614.4	27	6
Total cut flowers	2/	9,981.6	2/	100
Potted plants:				
Mums	35	923.2	33	26
Poinsettias	35	636.9	33	18
Geraniums	43	472.1	41	14
Azaleas	29	466.8	28	13
Lilies	34	277.8	32	8
Hydrangeas	16	138.5	15	4
Tulips	19	119.1	18	3
Other	31	481.9	30	14
Total potted plants	2/	3,516.3	2/	100

1/ Percentages rounded to equal 100.
2/ Numbers equal more than 105 or 100 percent because many firms produced more than one product.

By Area

Growers near the Philadelphia market produced flowers and plants worth $11.5 million in 1971 (table 4). Growers located near the Baltimore-Washington, D.C., markets produced $4.3 million in ornamentals.

The 5-year increase in value of production in the Philadelphia area was $1.2 million. Expansion by growers near Baltimore-Washington, D.C., was 30 percent or $1 million, about double the percentage growth achieved in the Philadelphia area.

By Size of Firms

The increase in production was accomplished by expanding the size of firms rather than by an increase in the number of growers. However, not all firms expanded relative to market growth. Between 1966 and 1971, the major change in size of firm was a decline in the number of firms with annual production under $50,000. Another major shift was in the number of firms selling ornamentals worth #300,000 and over in a year. The average firm interviewed in 1971 sold ornamentals valued at $151,533, 14 percent more than the $133,293 in ornamentals each firm sold in 1966. By 1971, the 16 largest firms, 15 percent of the total number of firms, provided 47.9 percent of the total value of production (table 6).

By Number of Employees

The increase in value of production per firm was accompanied by an increase in the number of employees. By 1971 the average firm had almost 10 persons employed full time, including the manager (table 7). The value of production per employee averaged $15,400. This average was achieved whether a firm had three or 33 employees, although there was some organizational variation shown by firms with seven to nine or 10 to 13 employees. However, the value of production per employee steadily increased from about $10,000 to $20,000 per year as the value of total production per firm increased from under $50,000 to over $300,000, indicating labor economies with the larger firms. Despite the wide variation in types of production methods used and crops produced, growers that achieved a higher than average production per employee had sales over $200,000 per year and employed 12 or more people. Labor efficiency as measured by value of production per employee declined slightly for firms with sales over $300,000.

TOTAL SALES

Total sales of flowers and plants by the firms interviewed exceeded the value of production because some firms purchased flowers and plants from outside sources. Total purchases were $1.4 million. Total sales in 1971 were $17.3 million (table 8).

Table 6.--Distribution of value of flower and plant production by area, firm size, and type of ownership, 105 firms, Philadelphia, Baltimore, and D.C. area, 1966 and 1971

Item	1966		1971	
	Number of firms	Value of production	Number of firms	Value of production
	Percent			
Market area:				
Philadelphia	69.6	75.7	70.5	72.5
Baltimore and D.C.	30.4	24.3	29.5	27.5
Total	100.0	100.0	100.0	100.0
Firm size:				
$25,000 to $50,000	29.4	7.9	21.9	5.6
$50,000 to $99,999	34.3	18.2	33.3	15.6
$100,000 to $149,999	10.8	10.2	14.3	10.9
$150,000 to $199,999	9.8	12.2	8.6	9.4
$200,000 to $299,999	5.9	11.4	6.7	10.6
$300,000 and over	9.8	40.1	15.2	47.9
Total	100.0	100.0	100.0	100.0
Type of ownership:				
Proprietorship	47.1	24.8	41.0	21.0
Partnership	19.6	14.5	18.0	13.1
Corporation	33.3	60.7	41.0	65.9
Total	100.0	100.0	100.0	100.0

Table 7.--Full-time employees and full-time equivalent of part-time employees, by number of employees and value of plants and flowers produced, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Item	Number of firms	Employees			Average per firm	
		Full-time	Full-time equivalent	Total	Employees	Value of production per employee
	Number					1,000 dollars
Number of full-time employees:						
0-3	35	84	51	135	3.9	15.3
4-6	35	158	77	235	6.7	15.8
7-9	10	80	31	111	11.1	11.0
10-13	12	128	29	157	13.1	19.9
14 and over	13	339	55	394	30.3	14.7
Total	105	789	243	1,032	9.8	15.4
Value of production:						
$25,000-$49,999	23	66	25	91	4.0	9.8
$50,000-$99,999	35	148	64	212	6.0	11.8
$100,000-$149,999	15	93	37	130	8.7	13.2
$150,000-$199,999	9	69	32	101	11.2	14.8
$200,000-$299,999	7	67	18	85	12.1	19.6
$300,000-and over	16	346	67	413	25.8	18.4
Total	105	789	243	1,032	9.8	15.4

Table 8.--Sales of flowers and plants by type of product, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Type of product	Purchases	Sales	Percent of total sales
	1,000	1,000 dols.	Percent
Cut flowers	1,057.0	11,038.6	64
Potted plants	240.2	3,756.5	22
Bedding plants	19.6	871.2	5
Foliage plants	109.6	865.5	5
Other 1/	3.0	808.6	5
Total	1,429.4	17,340.4	100

1/ Includes bulbs, cut foliage, dried flowers, etc.

Cut flowers were 64 percent of total sales and potted plants 22 percent. The remaining sales were about evenly divided among bedding plants, foliage plants, and all other ornamentals, including bulbs, cut foliage, dried flowers, and the like.

AGE OF FIRMS

An investment in a greenhouse represents a sizable fixed expenditure relative to the annual receipts from the production of ornamentals within the greenhouse. Furthermore, the costs of new greenhouses using steel and glass continues to rise with inflation. The result is that a firm building a greenhouse or purchasing a greenhouse expects to be in business a considerable period of time so as to recover fixed investment. The incentive to either build new greenhouses or relocate production depends upon profit opportunities. In the study area most growers interviewed had been producing ornamentals at the same location for over 20 years, in greenhouses that were built long before the current owners obtained control of the business. Very few firms reported either constructing new facilities or controlling production facilities in more than one location.

PRODUCTION FACILITIES

The glass covered, steel supported greenhouse continues to be the dominant structure used in producing florist crops. A total of 93 growers, 89 percent, produced flowers and plants under glass (table 9). However, economic factors may change this predominant use of glass greenhouses in the future. Maintenance and repair costs are becoming a particular problem and in addition to weather damage, vandalism is becoming a cost factor in areas where suburban housing has surrounded production facilities.

New construction, using other materials including fiber glass or plastic instead of glass in greenhouses, was the most significant change in the type of production facility used between 1966 and 1971. More open field production was added, and the number of producers using glass greenhouses exclusively declined from 58 to 44 between 1966 and 1971.

Some growers built additional glass greenhouse space incorporating new, more efficient greenhouse designs. The number of firms using both glass and other types of greenhouses in production between 1966 and 1971 almost doubled. The gain in the number of firms using this combination of production facilities offset the loss in firms that used glass greenhouses only or glass greenhouses and some open field production. During the 5-year period some firms that were producing exclusively under glass in 1966 went out of business and were not interviewed. Most firms that closed their businesses and did not sell them to new owners appeared to have had relatively small greenhouses. Operators of large greenhouses who left the business usually sold the greenhouses to other operators.

The change in value of production for the average firm from 1966 to 1971 was virtually the same for the major types of facilities. Within each classification major changes occurred, but generally the average firm increased in size about as much as the increase in the total market (table 10).

Table 9.--Value of flowers and plants produced, by type of facility used, 105 firms, Philadelphia, Baltimore, and D.C. area, 1966 and 1971

Facilities	1966		1971	
	Firms	Production	Firms	Production
	No.	1,000 dols.	No.	1,000 dols.
Glass only	58	8,372.4	44	7,235.7
Glass and open field	14	817.2	13	905.6
Glass and other protection	15	1,273.5	27	4,407.2
Glass, other protection and open field	5	1,556.0	9	1,242.4
Open field, only	7	1,260.7	9	1,650.1
Other combinations	3	316.0	3	470.0
Total	102	13,595.8	105	15,911.0

Table 10.--Value of flowers and plants produced per firm, by type of facility used, 105 firms, Philadelphia, Baltimore, and D.C. area, 1966 and 1971

Facilities	Value per firm		Increase or decrease 1966 to 1971
	1966	1971	
	--------Dollars-------		Percent
Glass only	14,452	164,448	+14
Glass and open field	58,371	69,662	+19
Glass and other protection	84,900	165,630	+95
Glass, other protection and open field	311,200	138,044	-56
Open field only	180,100	183,344	+2
Other combinations	105,333	156,667	+49
Average per firm	133,293	151,533	+14

The trend toward larger size existed in both market areas. Expansion in the average dollar sales was more pronounced for firms located near the Baltimore-Washington, D.C., markets.

PRODUCT MIX

Growers interviewed not only increased their total production but also increased the value of cut flowers they produced from 1966 to 1971. Nevertheless, the percentage of cut flowers produced declined relative to all other ornamentals based on value of production (table 11).

The value of potted and bedding plant production increased more rapidly than cut flower production in the 5-year period. However, cut flower production remained the primary business of most of the firms interviewed. The value of cut flowers increased from $9.1 to $10 million. Other ornamental production by the growers interviewed increased from $4.5 million to $5.9 million. Bedding plants, a small part of the total value, increased almost 74 percent. However, the increase in the value of bedding plants produced was less than $400,000, or about half the increase in value of potted plants produced in the 5 years.

PRICES

The increase in the value of all types of products reflects relatively little increase in volume, as average prices increased in the 5-year period. When one considers population growth and increased per capita consumption it is apparent that local production in the Philadelphia, Baltimore, Washington, D.C., area declined relative to flowers and plants brought into the area from other sources (table 12). However, reliable data are not available to isolate this shift except in the general manner already cited, based on value.

Grower prices of carnations, standard mums, and roses were favorable relative to the U.S. average prices. As a result, roses represented almost half of the dollar value of cut flowers produced and carnations and standard mums, together, were an additional 25 percent of cut flower production in the study area (table 5). The price trends of each type of flower in each of the three States did show some variation relative to national trends.

The average price of roses in each State increased relatively more than the 23-State increase in the price of roses. This was not true for the prices of the other four cut flowers (table 13).

The average price of carnations in 23 States for 1971 was below that for 1966. Although the price of growers in Pennsylvania and New Jersey for carnations was slightly higher in 1971 than in 1966, it was the carnation producers who were generally feeling the economic pinch from low prices for competitive flowers from California. Imported carnations were beginning to appear in noticeable volume in the Philadelphia and Baltimore-Washington markets in 1972. Imports of carnations have been large since then. The average price of carnations in Maryland in 1971 was particularly low relative to 1966.

Table 11.--Types of flowers and plants: Value of production, 105 firms, Philadelphia, Baltimore, and D.C. area, 1966 and 1971

Type	1966		1971		1971 as percentage of 1966
	Sales	Distribution	Sales	Distribution	
	1,000 dols.	Percent	1,000 dols.	Percent	Percent
Cut flowers	9,119.7	67.1	9,981.6	62.7	109.5
Potted plants	2,693.8	19.8	3,516.3	22.1	130.9
Bedding plants	487.9	3.6	851.6	5.3	174.5
Foliage plants	697.2	5.1	755.9	4.8	108.4
Other 1/	597.2	4.4	805.6	5.1	134.9
Totals	13,595.8	100	15,911.0	100	117.0

1/ Includes bulbs, cut foliage, dried flowers, etc.

Table 12.--Value of selected cut flowers produced in selected States, 1966, 1971, 1972, and 1973

State	1966		1971		1972		1973	
	Carns.	Roses	Carns.	Roses	Carns.	Roses	Carns.	Roses
	Million dollars							
Pa.	3.1	5.2	2.4	6.3	2.8	7.3	2.5	8.1
N.J.	0.8	1.3	0.8	1.4	0.7	1.3	0.7	1.5
Md. 1/	0.5	0.2	0.2	0.2	0.1	0.3	0.1	0.3
Subtotal	4.4	6.7	3.4	7.9	3.6	8.9	3.3	9.9
Calif.	13.3	9.3	21.8	16.0	25.9	17.5	24.9	15.7
Colo.	8.8	0.5	13.7	2.5	14.9	3.2	15.4	3.5
Subtotal	22.1	9.8	35.5	18.5	40.8	20.7	40.3	19.2
Other	11.1	24.2	7.4	28.3	7.3	30.0	6.0	32.7
23 States	37.6	40.7	46.3	54.7	51.7	59.6	49.6	61.8
	Std. mums	Potted mums	Std. mums	Potted mums	Std. mums	Potted mums	Std. mums	Potted mums
Pa.	1.6	0.6	1.7	1.4	1.8	1.7	1.9	1.8
N.J.	0.7	0.3	0.5	0.6	0.7	0.6	0.7	1.1
Md. 1/	0.5	0.3	0.6	0.5	0.6	0.6	0.6	0.6
Subtotal	2.8	1.2	2.8	2.5	3.1	2.8	3.2	3.5
Calif.	7.5	1.8	11.4	5.1	11.6	5.8	13.5	6.2
Fla.	1.4	1.2	1.8	2.4	1.5	3.0	1.4	2.9
Subtotal	8.9	3.0	13.2	7.5	13.1	8.8	14.9	9.1
Other	11.6	11.7	11.5	16.8	12.9	18.6	11.5	21.5
23 States	23.3	15.9	27.5	26.8	29.1	30.7	29.6	34.1

1/ Maryland and Delaware.

Source: Flowers and Foliage Plants (Sp Cr 6-1), Statistical Reporting Service, Annual Summary.

Table 13.--Wholesale price of selected flowers by selected States and U.S. average, 1966 and 1971 1/

Flower	1966				1971			
	Pa.	N.J.	Md.	U.S. 1/	Pa.	N.J.	Md.	U.S. 1/
	Cents							
Carnations	9.0	8.0	10.3	7.1	9.1	8.5	7.7	6.9
Standard mums	23.0	21.9	24.5	17.4	21.9	26.6	27.1	19.0
Pompon mums	87.0	86.0	114.0	78.0	79.0	119.0	124.0	85.0
Gladioli	87.0	68.0	77.0	66.0	84.0	72.0	84.0	84.0
Roses	12.4	10.8	10.7	11.2	14.3	14.3	13.4	12.7
Potted mums	139.0	155.0	154.0	143.0	143.0	142.0	188.0	153.0
	1971 as percentage of 1966							
Carnations	101	106	75	97				
Standard mums	95	121	111	109				
Pompon mums	95	138	109	109				
Gladioli	97	106	109	127				
Roses	115	132	125	113				
Potted mums	132	92	122	107				

1/ 23 States.

Source: Flowers and Foliage Plants (Sp Cr 6-1), Statistical Reporting Service, Annual Summary.

Maryland and New Jersey growers received a higher price for standard and pompon chrysanthemums in 1971 than in 1966 and also higher prices than in other States. However, prices for cut chrysanthemums in Pennsylvania were lower in 1971 than in 1966.

The prices of gladioli in the three States did not rise with the price in other States. Gladioli production was 5 percent of the total value of cut flower production of the growers interviewed.

Potted mum prices in 1971 in Pennsylvania and Maryland were higher relative to 1966 than potted mum prices in other States. However, potted mum prices in New Jersey were actually lower in 1971 than 1966. Potted mums were highest in value of the potted plants of the growers in 1971. It is unfortunate that no comparable data are available on the prices of other potted plants for the period.

MARKET CONCENTRATION

Sales to Wholesalers

Most growers sold only or principally to wholesalers. Some 78 of the 105 firms sold to wholesalers (table 14). The typical grower did business with less than five wholesalers. The size of firms did not appreciably affect the number of wholesalers and growers dealt with, although larger firms tended to deal with more retail firms. A few of the larger firms also were serving as wholesalers.

A total of 44 firms sold 25 percent or more of their production to one wholesaler (table 15), and 38 growers sold 50 percent or more of their total production to one or two wholesale firms. These growers believed they obtained the best returns for their crops by dealing principally with only one or two wholesale firms, over a considerable number of years. This belief contrasted with comments, generally from smaller firms, that growers did not obtain a fair return from wholesalers. Generally, growers emphasized the long-term nature of stable relationships with particular wholesalers in both local and distant markets.

Sales to Retailers

Average sales to individual retailers tended to be smaller than sales to wholesalers, and they required the grower to maintain more accounts. However, the use of many small accounts to sell a given volume of production has some advantages. For example, a single retail account's success or failure in selling does not substantially affect a grower's total business. Growers with 10 or more retail accounts generally found that (1) a variety of retail outlets provides a hedge against a drop in sales by one type of outlet, as other outlets may be expanding at the same time; (2) each type of market outlet offers an opportunity to sell different types and qualities of ornamentals; and (3) the grower becomes more familiar with demand variation and change as perceived by the various retail operators. Some of the growers said that they will be selling to additional retail and wholesale accounts in the future.

Table 14.--Number of active retail and wholesale accounts by firm size, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Firm size (annual sales)	Less than 5 accounts	5-9 accounts	10-29 accounts	30 or more accounts	Total
			Wholesale accounts		
			Number of firms		
$25,000-$49,999	13	1	1	0	15
$50,000-$99,999	23	2	1	2	28
$100,000-$194,949	10	7	2	1	20
$200,000 and over	7	6	2	0	15
Total 1/	53	16	6	3	78
			Retail accounts		
$25,000-$49,999	4	1	7	4	16
$50,000-$99,990	1	2	9	11	23
$100,000-$199,999	1	1	3	8	14
$200,000 and over	1	0	3	10	14
Total 1/	7	4	22	33	67

1/ Totals are less than 105 because some firms did not answer.

Table 15.--Number of customers accounting for 25, 50, and 75 percent or more of growers' retail and wholesale sales, 70 firms, Philadelphia, Baltimore, and D.C. area, 1971

Number of customers	Percent of sales					
	25		50		75 or more	
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
	Firms					
1	44	7	14	4	6	--
2	13	2	20	4	10	--
3	6	3	4	--	12	--
4 or more	7	13	18	17	28	22
Total 1/	70	25	56	25	56	22

1/ Totals are less than 105 because some firms did not answer.

Within 50 Miles of Production

Growers marketed most of their ornamentals within a 50-mile radius. Sales within 50 miles were $11.7 million or 68 percent of the total (table 16).

Sales of foliage plants, bedding plants, and potted plants were largely made within 50 miles of production. Cut flower sales were about twice the value of potted plant sales within 50 miles of production and represented 59 percent of all cut flower sales.

Flowers and plants sold within 50 miles of point of production were about equally handled by retailing and wholesaling firms. Sales by and to all retail outlets were $5.8 million and sales to wholesale outlets located within 50 miles were $5.9 million in 1971 (table 17).

The single most important outlet for cut flower sales was the wholesale florist. In contrast, the retail florist and other retail outlets were the primary receivers of potted plants, bedding plants, and foliage plants from nearby growers. Wholesale florists sold 48 percent of all products and 69 percent of all cut flowers marketed within 50 miles of point of production (table 18). Retail florist purchases and the growers' own retail sales combined were almost 25 percent of cut flower sales near the growers. Sales to other retail outlets were only 3 percent of cut flower sales in the vicinity of production.

Potted plant sales through retail outlets were 81 percent of the total. Retail florists and their own retail outlets handled nearly one-half of the value of potted plants sold.

Garden centers and chain and department stores sold 45 percent of the bedding plants marketed within 50 miles of production directly to retail outlets. However, bedding plants were only 5 percent of total florist crop sales by the growers studied.

More Than 50 Miles From Production

In the study area, cut flowers were 78 percent of the total florist crops sold more than 50 miles from their point of production (table 19). Only a very small percentage of potted plants, foliage plants, and bedding plants were shipped beyond 50 miles to markets.

Sales more than 50 miles from the grower's location were predominantly made through wholesalers. Because cut flowers were the major types of ornamentals shipped, 86 percent of all sales to distant outlets were made through wholesalers (table 20) and almost 65 percent of these to terminal market wholesalers. All other ornamentals were mostly distributed by other wholesalers in small cities, jobbers, and so on. Most of the retail sales were cut flowers shipped to retail florists.

Generally, most sales of each type of major flower were made nearby, as the total cut flower sales indicated. However, there was one exception to this rule.

Table 16.--Sales of flowers and plants within 50 miles and over 50 miles, by type of product, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Type of product	Within 50 miles		Over 50 miles		Total
	Value	Percent of total	Value	Percent of total	
	1,000 dols.	Percent	1,000 dols.	Percent	1,000 dols.
Cut flowers	6,668.5	59	4,370.1	41	11,038.6
Potted plants	3,376.7	90	379.8	10	3,756.5
Bedding plants	741.4	85	127.8	15	871.2
Foliage plants	691.8	80	173.7	20	865.5
Others 1/	233.8	29	574.8	71	808.6
Total	11,712.2	68	5,628.2	32	17,340.4

1/ Includes bulbs, cut foliage, dried flowers, etc.

Table 17.--Value of sales of flowers and plants by types of product, by type of outlet, within 50 miles of point of production, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Outlets	Cut flowers	Potted plants	Bedding plants	Foliage plants	Other 1/ products	Total Value	Total Percent
	1,000 dollars						Percent
Retail:							
Retail florist	1,302.4	1,322.7	119.8	375.3	5.9	3,126.1	27
Own retail	335.8	345.1	23.5	33.1	11.7	749.2	6
Garden center	30.5	373.9	219.4	45.1	---	668.9	6
Chain and department	74.6	477.2	116.5	97.7	5.0	741.0	6
Grocery	12.4	157.0	56.0	17.8	12.0	255.2	2
Other 2/	30.0	106.5	24.0	67.5	19.2	247.2	2
Total retail	1,785.7	2,752.4	559.2	636.5	53.8	5,787.6	49
Wholesale:							
Wholesale florist	4,615.1	624.3	182.2	55.3	116.0	5,592.9	48
Other wholesale 3/	267.7	---	---	---	64.0	331.7	3
Total wholesale	4,882.8	624.3	182.2	55.3	180.0	5,924.6	51
Total all outlets	6,668.5	3,376.7	741.4	691.8	233.8	11,712.2	100

1/ Includes bulbs, cut foliage, dried flowers, etc.

2/ Includes street vendors, variety stores, etc.

3/ Includes jobbers, nonflorist wholesalers, and part-time distributors.

Table 18.--Distribution of sales of flowers and plants by types of products, by types of outlets, within 50 miles of point of production, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Outlet	Potted plants	Cut flowers	Foliage plants	Bedding plants	Other 1/	Total
	Percent					
Retail:						
Retail florist	39	19	54	16	3	27
Own retail	10	5	5	3	5	6
Chain and department	13	1	14	15	2	6
Garden center	11	1	7	30	--	6
Grocery	5	2/	2	8	5	2
Other 3/	3	1	10	3	8	2
Total retail	81	27	92	75	23	49
Wholesale florist	19	69	8	25	50	48
Other wholesale 4/	--	4	--	--	27	3
Total wholesale	19	73	8	25	77	51
All outlets	100	100	100	100	100	100

1/ Includes bulbs, cut foliage, dried flowers, etc.

2/ Less than 0.5%.

3/ Includes street vendors, variety stores, etc.

4/ Includes jobbers, nonflorist wholesalers, and part-time distributors.

Table 19.--Sales of flowers and plants by type of product over 50 miles from point of production, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Type of product	Sales	Percent of total
	1,000 dols.	Percent
Cut flowers	4,370.1	78
Potted plants	379.8	7
Foliage plants	173.7	3
Bedding plants	129.8	2
Other 1/	574.8	10
Total	5,628.2	100

1/ Includes bulbs, dried flowers, cut foliage, etc.

Table 20.--Sales of flowers and plants by type of outlet, over 50 miles from origin, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Outlet	Cut flowers	All other 1/	Total	
			Value	Percent
	1,000 dols.	1,000 dols.	1,000 dols.	Percent
Retail:				
Retail florist	503.7	129.5	633.2	11
All other 2/	10.8	156.4	167.2	3
Total retail	514.5	285.9	800.4	14
Wholesale:				
Terminal market wholesale	2,822.8	362.0	3,184.8	57
Other wholesale 3/	1,032.8	610.2	1,643.0	29
Total wholesale	3,855.6	972.2	4,827.8	86
Total all	4,370.1	1,258.1	5,628.2	100

1/ Includes potted plants, bedding plants, foliage plants and other.

2/ Includes garden centers, food and general stores, and other.

3/ Includes wholesalers in small cities, jobbers, truckers, and non-florist wholesalers.

Gladioli, primarily grown outdoors, were usually shipped to a distant market rather than to the nearby markets. Almost three-fourths, 74 percent, of the gladioli produced in the area studied were shipped over 50 miles to market (table 21). In contrast, 86 percent of standard chrysanthemums, 79 percent of pompon chrysanthemums, and 64 percent of carnations were marketed within 50 miles of production.

Slightly over half of the other types of cut flowers of relatively minor commercial importance, individually, were marketed outside the traditional terminal wholesale markets.

The destinations of flowers and plants shipped over 50 miles varied by location of the growers. For example, the Washington, D.C., and Baltimore markets were over 50 miles from most Pennsylvania and New Jersey growers, but less than 50 miles from Maryland and Virginia growers interviewed. Since 74 of the growers interviewed were located near the Philadelphia terminal market, the bulk of their distant shipments went to the Baltimore and Washington markets. New Jersey and suburban Philadelphia growers in Pennsylvania shipped primarily to the area from Washington, D.C., north to Canada. Maryland and Virginia growers shipped mainly to Virginia cities and areas south of Virginia.

One-third of all shipments over 50 miles went to New York City. Cut flowers were the primary product shipped to all the major destinations listed in table 22. Both Baltimore and Washington, D.C., terminal wholesale markets received sizable shipments from suburban Philadelphia growers.

The only areas receiving large shipments outside the major terminal wholesale markets of Philadelphia, New York, Washington, D.C., and Baltimore were other cities and towns in eastern and western Pennsylvania and Maryland located more than 50 miles from either Philadelphia or Baltimore and Washington, D.C.

The shipments indicate that the terminal wholesale market areas of Philadelphia, Baltimore, Washington, D.C., and New York City account for all but about $2 million in total sales for the growers. The same terminal wholesale market areas have received large shipments of cut flowers from California, Colorado, Florida, and now imports from South America. 3/

RECENT TRENDS

Production

The trends in types of ornamentals produced in the study area from 1966 to 1971 continue. Opportunities exist for producing more flowers, but it appears that dollar sales of potted plants, bedding plants, foliage plants, and other ornamentals are expanding more rapidly than sales of the major cut flowers now being produced in the study area.

3/ D.C. Goodrich, G.H. Sullivan, and J.V. Powell, Selected Terminal Wholesale Markets for Flowers, U.S. Dept. Agr., Mktg. Res. Rpt. 1005.

Table 21.--Value of sales of cut flowers, by type of flower and location of sales, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Flower	Distance from point of production				Total
	Under 50 miles		Over 50 miles		
	Value	Percent	Value	Percent	
	1,000 dols.	Percent	1,000 dols.	Percent	1,000 dols.
Roses	2,888.5	57	2,151.2	43	5,039.7
Carnations	986.3	64	544.1	36	1,530.4
Standard mums	1,074.1	86	169.3	14	1,243.4
Gladioli	257.4	26	743.5	74	1,000.9
Pompon mums	516.0	79	133.3	21	649.3
Snapdragons	418.6	84	80.0	16	498.6
Other 1/	527.7	49	548.6	51	1,076.3
Total cut flowers	6,668.6	60	4,370.1	40	11,038.6

1/ Includes orchids, iris, daffodils, daisies, tulips, etc.

Table 22.--Value of shipments over 50 miles from origin by types of flowers and plants, by destination areas, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Destination areas	Cut flowers	Potted plants	Bedding plants	Foliage plants	Other	Total	
						Value	Percent
	1,000 dollars						Percent
N.Y.C.	1,336.2	36.5	32.0	18.2	431.2	1,854.1	33
Pa.-Md. 1/	887.2	109.1	3.6	17.5	20.7	1,038.1	18
D.C. 2/	572.8	148.7	62.4	138.0	16.7	938.6	17
Baltimore 3/	726.6	---	---	---	24.9	751.5	13
South 4/	335.5	58.4	2.8	---	13.6	410.3	7
Other N.J. 5/	238.5	27.1	28.6	---	---	294.2	5
North and east of N.Y.C. 6/	142.5	---	---	---	68.0	210.5	4
All other	130.8	---	---	---	---	130.8	3
Total	4,370.1	379.8	129.8	173.7	574.8	5,628.2	100
Percent of total	78	7	2	3	10	100	

1/ Pennsylvania and Maryland areas at least 50 miles from production area and excluding Philadelphia and Baltimore markets.

2/ Shipments to D.C. from growers located at least 30 or more miles north and east of Baltimore.

3/ Baltimore market shipments from growers located beyond 50 miles of Baltimore.

4/ Areas 50 miles or more south of Washington, D.C.

5/ New Jersey except for areas within 50 miles of production in Pennsylvania and New Jersey.

6/ Represents New York, New England, and Canada.

The total sales of four flowers (carnations, chrysanthemums, gladioli, and roses) in Pennsylvania, Maryland, and New Jersey were $18.9 million in 1966. Sales increased to $20.7 million in 1971 (table 23). The increase in value of production for the four flowers in the entire three-State area from 1966 to 1971 was 9.5 percent, about the same as the rate of increase in all cut flowers for the growers studied (table 11).

The increase in value from 1971 to 1973 was $3.9 million, or double the increase in the previous 5 years. Nevertheless, the increase in California, Florida, and Colorado exceeded that of the area studied, as production of the four flowers increased $12.1 million. Furthermore, 1973 was a very bad production year for northern California. Total California production, which had increased $7 million the year before, remained virtually unchanged. The basic trend, however, is for annual growth in the production of cut flowers in the three major shipping States to exceed the increase in value of production in the 20 other major producing States.

The second trend factor in florist crops is the increase in production of foliage and potted plants at a more rapid rate than cut flowers. The trend shown in the 1966 and 1971 totals continued in 1972 and 1973. Except for New Jersey and Pennsylvania in one year, 1971, production of foliage plants increased in value faster than cut flowers in 1966-71 and again in 1972 and 1973. The value of foliage plant production increased 49 percent between 1966 and 1971 and 76 percent from 1971 to 1973.

Production of potted mums increased from $15.9 million in 1966 to $26.8 million in 1971 and to $34.1 million in 1973 (table 12). Potted plants increased 69 percent in value from 1966 to 1971 and 27 percent from 1971 to 1973. Unlike cut flowers, the increase in potted plant sales in the three States studied was at a higher rate than the 23-State total.

Potted plants in the three States sold for $1.2 million in 1966, $2.5 million in 1971, and $3.5 million in 1973, increases of 108 percent and 40 percent, respectively. In contrast, carnations in the three States were lower in value in 1973 than in 1966 and standard mums were worth only 14 percent more than they were in 1966.

Distribution

The growers; as a whole, did not expect any important change in the type of outlets handling sales within 50 miles of their location. A few, however, believed change will continue to result in more sales to retail outlets and less to wholesalers. Growers also expressed the belief that more production of potted and bedding plants is in prospect. This trend will result in a decline in the percentage of cut flowers marketed and a decline in the percentage of sales through wholesalers.

Only one of every four growers shipping to distant markets believed that a change in markets is in prospect. The trend toward selling to other than the traditional terminal markets is likely to continue. In addition to marketing nearby, the growers considered that the possibility of income from direct sales to distant retailers also exists.

Table 23.--Value of production, selected cut flowers and foliage plants, selected States, 1966, 1971, 1972, and 1973

Selected States	1966		1971		1971 as percent of 1966		1972		1973		1973 as percent of 1971	
	Flowers 1/	Foliage plants	Flowers 1/	Foliage plants	Flowers 1/	Foliage plants	Flowers 1/	Foliage plants	Flowers 1/	Foliage plants	Flowers 1/	Foliage plants
	Million dollars				Percent		Million dollars				Percent	
Pennsylvania	12.4	0.9	13.6	0.9	110	100	14.9	2.9	16.2	2.5	119	278
New Jersey	4.7	1.2	5.2	0.8	111	67	5.6	1.5	6.4	2.0	123	250
Maryland	1.8	2/ 0.3	1.9	2/ 0.5	106	167	2.0	2/ 0.5	2/ 2.0	2/ 0.9	105	180
3-State subtotal	18.9	2.4	20.7	2.2	110	92	22.5	4.9	24.6	5.4	119	245
California	38.1	3.2	66.0	4.6	173	144	73.0	6.5	73.1	12.9	111	280
Florida	23.1	12.9	26.0	23.1	113	179	27.9	25.7	28.2	33.4	108	145
Colorado	9.9	0.1	16.9	*	171	*	19.0	*	19.7	0.3	117	--
3-State subtotal	71.1	16.2	108.9	27.7	153	171	119.9	32.2	121.0	46.6	111	168
17 other States	68.6	6.6	74.1	7.7	108	117	78.8	11.3	82.0	14.1	111	183
23-State total	158.6	25.2	203.7	37.6	128	149	221.2	48.4	227.6	66.1	112	176

1/ 4 flowers, carnations, chrysanthemums, gladioli, and roses.

2/ Maryland and Delaware combined.

* Unallocated to avoid disclosure of individual operations.

-- No measure.

Source: Flowers and Foliage Plants (Sp Cr 6-1), Statistical Reporting Service, Annual Summary.

Few growers interviewed had a large enough staff or sufficient capital to actively participate in market expansion or market development activities that lead to new sales in new markets or additional sales in existing major markets. The result is that the growers generally do not engage in organized market development programs.

INCENTIVES TO PRODUCE FLORIST CROPS

Positive Factors

Growers do not believe that the monetary incentives alone are strong enough to attract entry into the business of producing ornamentals. The belief is reinforced by the fact that most firms in the business have been operating for over 30 years. People stay in the business longer than monetary rewards alone would justify. Only three firms of the 105 interviewed began business in the last 5 years.

More than two out of three growers believed that nonmonetary rewards are the main incentives in producing ornamentals. For example, one-half of the replies were that people like growing flowers and find the occupation interesting. A high percentage of operators or managers were children of former owners or operators. Owners and managers also commented that young people no longer want to enter the business as they did, because they thought:

(1) monetary rewards are not commensurate with the salary earned in other occupations;

(2) hours of work are longer than in other occupations; and

(3) modern education emphasizes specialization in occupations, whereas this type of business requires the skills of many specialties to achieve success.

Negative Factors

The growers mentioned several reasons why outsiders are not attracted to the industry, and why some who are now in the industry do not expect to remain in it. The anticipated return on investment is low, it is difficult to locate competent workers at the wages the industry can afford to pay, and the need to manage the business 7 days a week discourages those seeking a career in the industry.

The positive factors for becoming a grower are largely social and personal rather than monetary. The monetary reasons discouraging entry are evident. The low return on investment is demonstrated by these facts:

(1) The average price of cut flowers, particularly in the selected markets, has not increased with the cost of inputs in producing flowers;

(2) productivity (output relative to a given quantity of inputs) in ornamentals production has not increased appreciably because most of the production facilities have not been modernized; and

(3) unfavorable competition from distant domestic and foreign production areas has intensified.

Wage rates are low compared with other types of work because ornamentals production remains relatively labor intensive. New industries now locating in the areas in which agriculture has been the major employer, are capital intensive and can attract labor with higher wages. Moreover, the monetary value of housing supplied by some growers for key personnel appears to be less than the equivalent pay without housing supplied.

The long hours required in growing flowers and plants have both a social and monetary cost. The monetary cost is measured by the loss of alternate part-time employment opportunities and the income a person is willing to give up for an occupation he enjoys. The social cost of long hours concerns adjusting to a way of life different from the rest of the community. This factor was particularly vivid for single proprietors, but less important in corporate operations.

Suburban Pressures

The average grower of flowers and plants has a considerable investment in facilities if he operates a glass-covered greenhouse. Most of the growers visited depended on production from greenhouses constructed over 20 years ago. When the greenhouses were built, almost all were in rural or sparsely settled suburban locations. The facilities were built before the interstate road system was inaugurated and the post-World War II exodus from cities began. The land has now become valuable, not as agricultural land close to markets, but for housing and industrial plants. The construction of beltways around cities and interstate highways between cities has both hurt and helped the producers studied.

Suburban growth first increased land values and taxes. Continued growth has now resulted in restrictive zoning, clean air and waste disposal laws, and other regulation of growers. The highways have made it possible for people and factories to move into the ornamentals producing areas to provide alternate employment of labor and use of land. The above are the negative impacts of highways. The positive benefits of the highways have been that growers are no longer limited to shipping to the nearby terminal wholesale market. New housing and new businesses create new markets outside the existing terminal markets and make direct distribution by growers more feasible than in the past. Shipping times to other markets are reduced, providing a broader market opportunity for the individual grower.

INTEGRATION AND CONGLOMERATION

Producers located near large markets have generally specialized in the business of growing florist crops. The typical grower sells some flowers directly to individual customers, but primarily concentrates on producing and marketing flowers and plants through one or more wholesalers and retailers. Some 75 of the

105 firms were not affiliated with any other firm (table 24). However, 30 firms had other business interests. Over half, 17, of these firms owned retail florist shops. An additional seven growers owned wholesale or retail and wholesale businesses. Vertical integration toward marketing was greater than horizontal integration with other growers.

A reason for the relatively small number of growers having vertically integrated businesses as a result of acquiring wholesaling or retailing facilities was the method used in classifying growers. Growers who produced less than $25,000 worth of ornamentals and sold more than 50 percent of total sales through their own retail outlets were not included in the study. 4/ The growers interviewed were concentrating on production alone, particularly those engaged exclusively in cut flower production.

Growers specializing in the production of potted plants, foliage, and bedding plants relied heavily on nearby retailers, and so were more concerned about markets than growers specializing in cut flowers. Along with growers of cut flowers and plants who marketed directly to retailers, they recognized that more coordination of growing and marketing activities would be beneficial. However, the development of this coordination or integration of interests seemed likely only to a few managers. Most firms continued to see their business organization to be the same in the future as it was in 1972.

PRICE AND PRICING POLICIES

The growers were asked to specify the relative importance of eight factors in their pricing.. The factors were to be described as very important, of some importance, and of little importance.

Quality differences were rated as very important by 77 growers, 76 percent of the total (table 25). The other two factors to receive a high rating from more than half the growers were seasonal and holiday demand and the quantity of ornamentals available.

Two of eight factors--flower type and services extended to the customer--were rated of some importance or very important by more than half the growers. Factors considered of little importance in pricing ornamentals were the type of customer, the volume purchased, and market news.

The growers were asked which demand and supply factors were becoming more or less important, without specifying the factors for the grower. The most frequent response was competition as determined by general demand and supply. About 30 of the growers could not single out specific factors of demand and supply. However, 27 growers did feel quality identification is becoming more important in demand. Few growers could agree that a particular factor was declining in importance.

4/ Retailers who did not qualify as growers under this definition generally stated that they depended on wholesalers and distant sources of supply for the bulk of ornamentals they sold.

Table 24.--Affiliation with other business, 105 firms, Philadelphia, Baltimore, and D.C. area, 1971

Type of business	Number of firms	Percent of total
Own retail stores	17	16
Own wholesale business	4	4
Own wholesale and retail	3	3
Own other production	2	2
Other business	2	2
Delivery business	2	2
No other business	75	71
Total	105	100

Table 25.--Factors in pricing and their relative importance to growers

Factor in pricing	Very important	Some importance	Little importance	Consensus rating 1/
	Percent			
High rating:				
Quality differences	76	14	10	84
Seasonal holiday demand	56	40	4	77
Quality available	57	33	10	74
Medium rating:				
Flower type	43	45	12	67
Service extended	23	39	39	42
Low rating:				
Type of customer	12	33	54	29
Volume purchased	7	40	52	27
Market news	3	9	89	7

1/ Consensus rating determined by percentage of rating above the minimum 1 times the number of firms and below 3 times the number of firms.

About one-third of the growers thought the cost of production was becoming more important as a supply factor in pricing. Producers of potted plants and bedding plants particularly pointed out that modern business methods enabled them to calculate costs and set prices based upon these costs.

Cut flower producers have a different set of pricing factors to contend with. The price of cut flowers, including carnations and standard and pompon chrysanthemums, depends on the market quantity and particularly the quantity available from California or South America. A total of 27 firms thought quantity is becoming more important as a supply factor in pricing.

Quality appears as a key factor in pricing for cut flowers and other ornamentals for which no objective grades have been agreed upon. The differences in price received for subjective determinations of quality are apparently significant enough to be a key determinant in the financial success or failure of growers.

Type of product and services extended are associated with marketing plants to retail florists and other retail outlets. Services rendered include delivery, pots, labels, and care information. Such activities have not been crucial in marketing through wholesalers.

A total of 25 firms recognized themselves or another firm as price leaders. This recognition was largely confined to the nearby market area for the marketing of plants. Three firms referred to a source of supply, such as California or imports, as the determinant factor in pricing cut flowers. Seventy-seven growers could not identify a dominant firm or price leader in the markets in which the growers sold. The small number of positive answers reflects the fact that most firms market a considerable volume of ornamentals on consignment.

NONPRICE PRACTICES AND SERVICES

Crop Preparation

Practices for preparing cut flowers for market were fairly uniform. The differences in the preparation were determined primarily by the size of the firm. The larger the firm, the more equipment was used to sort, grade, bunch, label, and package cut flowers. Most growers, however, relied strictly on hand labor for crop preparation in marketing. The average grower did not have either the skilled labor available or the volume of production to make automatic handling of cut flowers profitable. The hand labor required for each operation resulted in higher unit costs for the smaller growers.

A few large growers chose to use hand labor in these operations, despite potential cost savings. These growers found that the quality of the end product commanded a higher price, offsetting higher costs of hand operations.

The preparation of bedding plants, potted plants, and foliage usually presented a different marketing challenge. Some buyers specified the volume, variety, and size of plants that were needed before production was initiated. Seasonal prices were promulgated more on the prevailing costs of and the supplies

available from nearby growers. Labeling, instructions for care, and other market information was provided by more growers for plants than for cut flowers.

The expressed views of growers concerning changes in practices in the next decade were also very limited. Less than one in 10 growers expected specific changes in the procedures used in marketing in the next decade. The few growers who specifically mentioned prospective changes referred to either more objective grading of cut flowers or improved product identification, care, and packaging of flowering potted, bedding, and foliage plants.

Credit Policies

Credit policies and practices, like other aspects of the business operations of the growers, changed slightly and are expected to continue along the trends established between 1966 and 1971.

The percentage of total sales on consignment declined from 47.5 percent to 44.8 percent between 1966 and 1971 (table 26). The percentage of cut flower sales made on consignment was higher than that of flowering potted plants, bedding plants, and foliage plants. This was given as one of the reasons that the percentage of outright sales is expected to increase, as more plants relative to flowers are expected to be sold in the future. At the rate of sales gain achieved between 1966 and 1971 and the expressed percentage of consignment sales expected in 1975, growers on sales of $19 million in 1975 will be making about 36 percent of sales on consignment, or $7 million.

The gradual change from consignment sales to outright sales on credit may cause problems for the individual proprietor. Sales on consignment and outright sales for cash require far less office expense and accounting than credit sales. Hiring another worker or two to do the administrative job of handling credit can be a financial burden for firms with a severely limited staff. Thus, small-volume firms will be reluctant to change to marketing procedures that include more credit extension. However, increases in sales commissions on consignments from about 20 percent to 25 percent were forcing some growers to seek alternate methods of marketing.

Advertising and Promotion

Very few growers did individual advertising or promotion. However, most firms were members of a local, State, or national trade association which provided some publicity and promotion of cut flowers and plants.

The total cost of private advertising by growers in 1971 was only a fraction of 1 percent of total sales. Less than 5 percent of the growers spent as much as $1,000 on advertising as an individual firm. However, although formal advertising budgets were a rarity, most growers participated in one or more of the following activities: (1) gifts of flowers, flower arrangements, and plants to local community or civic groups; (2) small ads in trade magazines; and (3) circulars on special local sales or flower and garden shows.

Table 26.--Consignment and outright sales, credit and cash sales, 1966 and 1971, and expectations, 1975

Method of sale	1966		1971		1975	
	Value	Percent of total	Value	Percent of total	Value 1/	Percent of total
	1,000 dols.	Percent	1,000 dols.	Percent	1,000 dols.	Percent
Consignment	6,932.1	47.5	7,757.5	44.8	6,900	36.3
Outright	7,677.3	52.5	9,582.9	55.2	12,100	63.7
Total	14,609.4	100.0	17,340.4	100.0	19,000	100.0
Credit	6,680.7	45.8	7,829.6	45.1	8,450	44.5
Cash	7,928.7	54.2	9,510.8	54.9	10,550	55.5
Total	14,609.4	100.0	17,340.4	100.0	19,000	100.0

1/ Estimated from percentage change.

Growers selling considerable quantities of potted plants and bedding plants directly to retailers, generally indicated that advertising and promotion activities may be expanded. The reasons given for their greater interest in these promotion services were:

(1) The individual buyer in the direct sales outlet was usually more dependent on total supply from a single producer than a wholesaler receiving products on consignment from many growers;

(2) the seller had a more direct interest in product identification for the retailer and the consumer; and

(3) it is easier to measure the direct impact of advertising on sales in a local store from promotion efforts.

Services

The growers were shown a list of 11 specific services provided to customers. The growers were asked which ones they provided in 1966 and 1971, and which ones they planned to provide in 1976. Grading received the highest percentage of individual response for 1966 and 1971. Grading services also received the highest response for services expected to be performed in 1976. Some 22 percent of the firms already provided grading in 1966 and 1971 and 5 percent more expected to provide this service in 1976 (table 27). Credit was provided by a similar percentage of firms. However, a few firms hoped to curtail credit by 1976. The only other factor that is now important to 10 percent or more of the firms is the labeling of products. By 1976 one in every five growers believed they will be labeling products, particularly flowering potted plants, bedding plants, and foliage plants.

Less than 5 percent of the growers performed any other services than those listed. Services provided were not generally limited to certain types of customers.

Summary

The limited number of specific answers to questions on services provided to customers indicates the degree of specialization and preoccupation of the growers interviewed in direct production problems. Marketing is of secondary importance in the ranking of problems encountered by the typical grower. The grower can always consign products to a wholesale market if direct sales are not sufficient to absorb his productive capacity. The typical grower has been able to survive by marketing more cut flowers, primarily through terminal market wholesalers on consignment, or by producing additional flowering potted plants, bedding plants, and foliage for direct marketing to retailers. It is the direct marketing that is beginning not only to change the relative importance of cut flowers and plants in the production mix, but also to expand and modify marketing practices by growers. As yet the typical grower near the wholesale terminal market continues to depend on this market. Nevertheless, competitive forces and opportunities are changing this traditional business. The increasing competition

Table 27.--Percent of flower and plant growers providing or planning to provide specified services, Philadelphia, Baltimore, and D.C. area, 1966, 1971, 1976

Services 1/	1966	1971	1976
	Percent		
Grading	22	22	27
Credit	21	21	19
Labeling	14	16	20
Special packaging	7	9	13
Market information	4	7	9
Special pricing	7	9	8
Management advice	--	1	5

1/ Other services anticipated in 1976 that received less than a 5 percent response were advertising, brokering, cooperative selling, and other (financing, risk bearing, etc.).

from lower priced cut flowers from distant sources in the terminal market will result in the continued decline in the number of producers, an increase in the average size of firm, and eventually more vertical affiliation or integration of firms producing and marketing ornamentals.

Local firms must improve their current rate of production to meet the expanding demand for flowers and plants in the Philadelphia, Baltimore, Washington area. In addition, growers will need to prepare to service mass merchandising outlets to develop a successful sales program in the future.

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